# Design and Production



ments, such as screwless fastening systems that ensure traction drive transmission, static multi-spring systems that permit the absorbance of high-frequency fluctuations cau-

thus improving the efficiency of cleaning processes.





### Own production

Lidering carries out its manufacturing activities at its own facilities in Reus, using advanced technology such as CNC machining.



Lidering's products can be tested by simulating realistic conditions.



Its products comply with the main European and US standards.







In addition, Lidering's production centre in Tarragona has the Saqr-ATEX certification. This certification authorises the centre to repair ATEX equipment, maintaining the original certification regardless of its grade.



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Lidering is a company of reference in the design, manufacture and repair of mechanical seals.

We are able to manufacture any type of mechanical seal, including standard market solutions and special customengineered seals for our customers.

Our production plant in Reus produces prototypes and custom-engineered designs in medium-sized and small production runs.

For serial production runs, we have different partners from all over the world.

Lidering was founded in 1975 and we are present in all 5 continents, with a wide network of our own cen-

tres, distributors and customers, in strategic sectors

such as the food, pharmaceutical, cosmetic, energy, water and waste treatment, renewable energies,





Our mechanical seal range provides solutions for pumps, agitators and other complex systems in which sealing is an essential requirement to guarantee the efficiency and safety of the facilities.

### CARTRIDGE SEALS



PROCESS SEALS











**FLOATING SEALS** 





# Repair and production centre

Lidering production centre has repair areas of all types of rotating equipment and mechanical seals.

The most common processes are:



Dismantling and analysis of internal components.



Replacement of secondary seals in diverse materials: NBR, EPDM, EPDMPEROX, FPM, FFKM, AFLAS, HNBR, PTFE, etc.



Special fillers and coating materials for metal parts such as chromium oxide or stellite.

The centre has almost 1,000 m<sup>2</sup> of production space. with automated machining equipment, lathes, reamers and CNC milling machines and, together with our design capacity, it allows us to improve special mechanical seals for mills and mixers, in which the products to be sealed are in powder form or contain tiny particles processed at high revolutions.



The repair of metal parts or their replacement through our own production using high quality European steel.



Grinding and lapping of seal faces in materials such as silicon or Tungsten carbide and their manufacture in materials such as graphite, antimony or PTFE.



Checking of elastic elements (springs, leaves, Super-sinus springs) and their replacement if necessary, in all cases ensuring the correct force is exerted.



Enamelling/vitrification of elements used in the chemical industry, including mechanical seals, shafts, flanges, etc.

## **Agitating machines**

## **Seals for agitators and reactors**

Extreme conditions:

Absence of lubrication or dry operation, as the product used is not in contact with the friction faces of the mechanical seal, which generates premature wear.



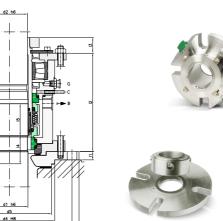
The movement of the product insi-



### **Top-entry agitation**













Bottom-entry agitation





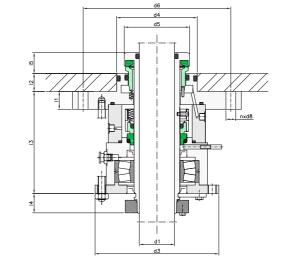
## **Bottom-entry agitation seals**

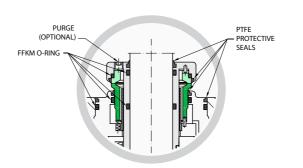
In these systems, the motor is mounted at the bottom of the tank.

This configuration means that the seal is submerged in the product but the shaft is usually shorter than in top-entry agitation.

Due to these features, the shaft is normally better guided and does not generate as much stress on the sealing area. On the other hand, the seal must be able to work in continuous contact with the product, w which is usually very viscous, abrasive or chemically aggressive.

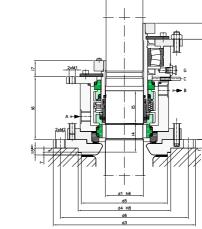
Lidering's solutions in such cases would be the LS83/ LDC83 or DRY SEALS.





## Seals for enamel-coated

Other special "glass-lined vessels" versions (seals for enamelcoated agitators). The metal parts of the cartridge that could come into contact with the chemical are coated with ceramic



## **Services**

## Repair and improvement of rotating equipment

We repair and recondition hydraulic pump parts, replacing worn elements such as shafts, impellers, scrolls and, of course, mechanical

We propose improvements in the rotating equipment that we receive for repair, not only in terms of the sealing system, but the equipment in general, facilitating future maintenance.

The static sealing tests that we perform allow us to check that both the mechanical seal and the other seals can withstand the working



3D drawings

Having 3D software

allows us to design

custom solutions that guarantee the sealing

of agitation and pum-

ping equipment, no

matter how complex

the application may be.

We ensure the correct alignment of the shafts. This is of vital importance in preventing subsequent failures, preventing damage to the pump and thus reducing unforeseen stoppa-

### Surface treatments/ Coating/ **Fillings**



If necessary, we produce coatings to increase the surface hardness (greater than that of conventional stainless steel). We machine the area to be hardened and then the filler material, an alloy called stellite, is melted.

When a greater hardness than stellite is required, we produce fillers. We deposit a layer of chromium oxide using plasma, a material with great hardness and is comparable to silicon carbide. The treated area looks dark, and is thus easy to see.



## In-company training

We organise courses on our products and their applications in our training classroom that include general topics related to our product range or specifically for certain sectors, such as the pharmaceutical, food, chemical or paper

In our virtual classroom, we resolve cases that pose specific problems, establishing improvements, designing pump modifications that make it possible to change from braided packing to cartridge, etc., and improving preventive or predictive maintenance procedures in pumping equipment.



As experts in the field, we can send our team of technicians to assemble the mechanical seals in agitation and pumping equipment. So that, we guarantee a smooth start-up with no hitches.











Exothermic reactions (generation

of high temperatures) that could

damage the seal materials.

de it generates forces, turbulences, whirlpools and vibrations that are exacerbated as the fluid product viscosity increases.



## Side-entry agitation









## agitators and reactors

material that is resistant to abrasion and chemical attack.

